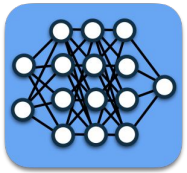
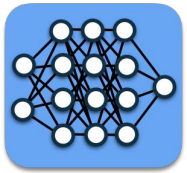


CompF3: Machine Learning

Phiala Shanahan (MIT)
Kazu Terao (SLAC)
Daniel Whiteson (UCI)

- Draft Report Link
- Comments

- ML in HEP is rapidly expanding and advancing, and presents important opportunities that we must embrace
- Genuine creativity and novel developments in AI/physics – not just applications – needs targeted support to foster
- Diverse use cases have diverse requirements and must be addressed separately
  - Data analysis
  - Anomaly detection
  - Theory
  - Detector/accelerator physics modeling, design and operations optimization
- Investments of computational resources and support for personnel for exploratory research is critical



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- Comments

- Community tools, standards, resources, management
  - Require HPC incl. GPUs, FPGAs, Asics
  - Must support exploratory research
  - Recommend allocation-free resources at universities for workforce development and to support innovation
- Education and engagement
  - Comparatively junior workforce
  - Need to retain junior researchers driving innovation
  - Engagement with industry requires assessment of ethics